

The latest news from Rheinmetall Canada Inc.

NEWSLINE

Strong partner for Canadian Forces

The company started with the award of the ADATS contract back in 1986 – today Rheinmetall Canada is a leading supplier of weapon systems and services for the Canadian Forces (see page 3).

Focusing on new market shares

President Dr. Andreas Knackstedt is convinced that “the strength of Rheinmetall Canada’s extensive product portfolio in four business units is a strong benefit to capture new market shares” (pages 4 + 5).

Rheinmetall Canada celebrates its 25th anniversary – solid growth is expected

Success in a very dynamic market

Saint-Jean-sur-Richelieu/Ottawa. Rheinmetall Canada, a leading supplier of weapon systems and services for the Canadian Forces, is an established player in the Canadian market. The Rheinmetall subsidiary that was established under the name of Oerlikon Aerospace in 1986 and joined the Rheinmetall group in 1999 is celebrating its twenty-fifth anniversary this year. Rheinmetall Canada has around 250 employees at its facilities in Saint-Jean-sur-Richelieu near Montreal and in Ottawa. Originally established to

The Canadian combat systems market is in the midst of an exciting period of renewal. Existing vehicle fleets have seen extensive use in the extremely harsh environment of Afghanistan since the Canadian mission began there in 2003. “We are benefiting from this period of renewal. As a competent partner, it gives us the unique opportunity to offer our main customer, the Canadian Army, new solutions for air defence systems, weapon stations and other applications in which we have extensive know-how”, says Alain Tremblay, Vice President Business Development.

Rheinmetall Canada has a large development and production facility in Saint-Jean-sur-Richelieu, Quebec, for assembly, integration and testing of weapon subsystems and infantry equipment. For instance, the Close Area Suppression Weapon system (CASW) which includes a Heckler & Koch grenade machine gun, a BAe thermal imager and a Vinghog-Vingmate fire control computer was developed at this facility and is now being integrated and tested there.

With its solutions in the four business areas Vehicle Integration, Weapon Stations, Air Defence and Defence Electronics, Rheinmetall Canada is focussing

provide Industrial and Regional Benefits to Canada, the company has since developed into an acknowledged specialist in two main areas, namely Air Defence and Defence Electronic Systems on the one hand, and Vehicle Integration and Weapon Systems on the other hand. Commencing 2010, the company that currently generates nearly three-quarters of its turnover with the Canadian Forces has reorganised its business in these four areas to gain new market shares and customers in the future.



Great success in a dynamic market: Canada has contracted Rheinmetall Defence to modernize and overhaul Leopard main battle tanks for its armed forces.

largely on the North American market. Alain Tremblay: “Canada will remain our most important market although we also expect business to grow in connection with American projects. Other markets in which we have already generated

ENGAGED IN DEFENCE | 25 years of innovation in Canada

substantial business and that remain interesting for us are the Netherlands, followed by France.” As a diversifying company with international customers and partners, Rheinmetall Canada has secured significant orders in all four business areas in recent years.

One of the biggest successes in the last years is the order for the modernization, repair and overhaul of Leopard main battle tanks and the delivery of weapon systems totalling a value of about € 92 million.

★ In this connection, Rheinmetall Canada has been awarded a € 69 million contract for grenade launcher systems and the related ammunition for the Canadian Army. Under the Close Area Suppression Weapon CASW project, the Canadian armed forces started to take delivery of 304 grenade machine guns called C16 Automatic Grenade Launcher System to replace older mortar systems. (For

(Continued on page 2)

★ **Multi-Mission Radar (MMR):** Rheinmetall Canada in partnership with ELTA is proposing a unique solution to the Canadian Army requirement. Representing the best advanced radar and sensor technology, the MMR system can detect and accurately direct an effective engagement on any modern threats from the air and ground.

★ **ISTAR,** a system for intelligence, surveillance, target acquisition and reconnaissance: The advantage of this system is that it allows integration of subsystems, for instance the successful PSA in the Canadian intelligence and reconnaissance network.

★ **IC4U (Interconnected Command Control Communications Computer Unit)** for the integrated modular combat equipment as part of the Canadian Soldier System project: This is a completely digitized, modular system for voice, data and video transmission in real-time. The open architecture of the system is based on commercial standards. Communication is via Ethernet and ICP/IP protocol. The unit is easily integrated in helmets, operational clothing and equipment, and can also be combined with physiological sensor systems. Low-weight and intelligent energy management allow lengthy operational periods.

★ **SC2PS integrated with “Vingtacs II” (Sensor Command and Control Planning Suite):** The Sensor Command and Control Planning Suite (SC2PS) is a real-time multi-sensor application enabling the evaluation and processing of data

Ottawa. More than 8,000 visitors from all over the world are expected to visit Canada’s foremost Defence and Security exhibition CanSec in Ottawa on June 1 and 2, 2011. Canada’s leading defence and security companies including Rheinmetall Canada will be exhibiting their products at the exhibition. CEO Dr. Andreas Knackstedt: “This exhibition gives us an ideal opportunity to showcase our reorganized company with its four product lines Vehicle Integration, Weapon Stations, Air Defence and Defence Electronics. I am extremely excited to share with our primary customer, the Canadian Forces, our new vision for the future of Rheinmetall Canada.” Rheinmetall Canada will be exhibiting new products from its four main areas of activity; the exhibits in the “Boeing” hall at booth No. 1202 will consist of a mix of static and fully functional products.



New vision for the future

received from Soldier Systems, ground sensors, tactical aircraft and unmanned aerial vehicles (UAVs). SC2PS gives commanders a powerful command and control tool for tactical planning.

★ **Demonstrator Gunnery and Combat Simulation,** the simulator for gunnery and combat training with large-scale systems.

★ **Lance Turret Simulator:** The Lance turret is distinguished by its modularity and the ability to be integrated in networked environments. Two electro-optical sighting systems (SEOSS Sector and SEOSS Panoramic) give commanders and gunners a 360° panoramic view. Furthermore, both the manned and unmanned variant of the

Lance turret can be fitted on a number of platforms. The related simulator allows highly realistic crew training, especially gunnery practice and combat operations, while offering the benefit of substantial cost savings.

Outdoor exhibits include:

★ **SX 45 8x8 recovery vehicle** from RMMV: The SX 45 vehicle has been used successfully to recover damaged combat vehicles in Afghanistan. The extremely reliable recovery vehicle offers excellent terrain mobility, high personnel protection and electronic jamming devices against remotely detonated improvised explosive devices/R-IED.

★ **Multi-Mission-Radar unit,** full-scale model.

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Success in a very dynamic market

(Continued from page 1)

details on the CASW project, see also article “Ideal partner for the Canadian Forces” on pages 6 – 9)

★ Another order worth around € 23 million relates to the repair and modernization of Leopard main battle tanks (MBT) which the Canadian Army has received from the Royal Dutch Army. 42 MBTs of the type Leopard 2A4 will be upgraded to Canadian standards and integrated in existing command structures by 2013.

Canada currently has ongoing procurement programs for the AEV (Armoured Engineer Vehicle) and ARV (Armoured Recovery Vehicle) variants of the Leopard 2. Knackstedt: “It is naturally our goal to win this business in cooperation with Rheinmetall Landsysteme (RLS) and other industrial partners, and thus to underscore Rheinmetall’s position as a leading supplier of vehicle systems on the Canadian market.”

Rheinmetall Canada can look back on the last years with pride. The outstand-

ing commitment and dedication of the workforce have paid off: For 2011 and 2012 Rheinmetall Canada is targeting approximately \$120 million (Canadian dollars) in sales with an estimated split between the two business lines of 75% (Weapon Systems and Vehicles) and 25% (Electronic Systems and Air Defence). The strong product portfolio and range of services give Rheinmetall Canada a solid foundation on which to build future growth. (See also article “Trump card with four core activities” on page 3.)

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Rheinmetall Canada – a very successful all-rounder with a vast supplier network

Trump card with four core activities

Saint-Jean-sur-Richelieu/Ottawa. The company started with the award of the ADATS contract back in 1986, at that time still operating under the name of Oerlikon Aerospace. Unlike competing solutions that used radar technology which rendered their systems prone to detection by enemy forces, ADATS is a highly complex system based on an electro-optical target detection and fire control system to detect aerial targets. “The experience gained with this major project served as a basis for the first important milestone towards becoming an advanced systems supplier who is today capable of providing systems technology, software development and lo-

gistics engineering. Alongside our main customer, the Canadian Forces, we have performed numerous projects for other customers like the German, French and Dutch armed forces”, says Duncan Hills, Director of Government Relations and Industrial Benefits. The transformation from a corporation that originally only had the one ADATS project to a company that now has four business units has allowed us to penetrate new markets such as battlefield systems and homeland security. Around 250 employees, including 75 engineers and 100 production staff, are focussed on systems engineering, integration, logistics and services for the new markets.

The sales team from Rheinmetall Canada is not only fully acquainted with all aspects of the sales process but also has a vast network at its disposal allowing it to launch Rheinmetall Defence products on the Canadian market. The sales people are also highly qualified to deal with issues related to Industrial and Regional Benefits. Core competencies of Rheinmetall Canada are the four business units Vehicle Integration, Weapon Systems, Air Defence and Electronic Systems. Each of these units also acts as a service provider for the other three service areas, i.e. for production of the respective components, the offsets and in-service support. For example, Rheinmetall Canada manufactures the cable assemblies of the remotely-operated PROTECTOR Weapon Station of the Norwegian manufacturer Kongsberg Defence Systems.

“Although we see our core competency in the management of highly complex systems, the component business is a new and interesting part of our long-term business strategy, providing good turnover and therefore stability”, notes Alain Tremblay, Vice President Business Development.

In-service support is also viewed as a long-term strategy, giving customers the assurance of the complete service spectrum for lifelong support of a specific product from one single source. The 4+3 pillar strategy of Rheinmetall Canada, i.e. four business units plus the three above-mentioned service areas, is the business model on which the new Rheinmetall Canada is founded.

Rheinmetall Canada has performed many successful projects for international customers and partners. Some service and project examples include the following:

★ **Vehicle integration:** Services include the manufacture, design and integration of sub-systems like the remotely operated weapon stations, command and information systems, and sensor and servo systems.

Projects: Integration of the ADATS-turret on the LAV-III-vehicle for the Canadian Forces; integration of the Manpad Cueing System in the Mercedes Benz G-Wagen.

★ **Weapon Systems:** Rheinmetall Canada has the ability to develop, test and ultimately manufacture complete weap-

tem for the modern ASRAD (Advanced Short Range Air Defence) project for the Finnish Armed Forces.

★ **Electronic Systems:** Rheinmetall Canada develops electronic systems and software for various defence applications. Services include: systems analysis, integration, test and qualification, electronic design including customized interfacing.

Projects: Computer and software for the integrated soldier system of the French and German Armies (Felin/Fantassin à Équipements et Liaisons Intégrés and the Future Soldier System IdZ-ES).

These examples highlight Rheinmetall Canada’s position as a highly competitive company capable of offering customized solutions and services for ground forces, naval and air force applications. “We are the only company in Canada that can offer solutions for all four business lines and therefore have a strong



customer-focus”, adds Alain Tremblay, Vice-President Business Development. Rheinmetall Canada cooperates with partners that may very well be competitors in other projects. To give just one example: BAe Systems is a supplier for the CASW project but a competitor in the Close Combat Vehicle Project.

on systems from individual components and assemblies. Fire control, software design, development and qualification are further areas of excellence. **Projects:** Integration, test and installation of MASS-systems for CF frigates for the Canadian Navy; production, assembly, integration and testing of Arrows weapon stations, CASW C16-automatic grenade launchers.

★ **Air Defence:** Rheinmetall Canada develops Battlefield Management Systems that integrate air defence weapons, sensors, communications systems and software to a complete air defence system.

Projects: future anti-aircraft systems, ADATS (Air Defence and Anti Tank System, Canada), FGBADS (Future Ground Based Air Defence) system for the Royal Netherlands Army; BMC41-Sys-

The organisation in four equally important business units is strategically significant for another reason since the units complement one another very well. President and CEO Dr. Andreas Knackstedt: “The experience gained with vehicle integration has a positive effect on weapon station development. Hardware components of the Soldier System that are used in the Manpad Cueing System are another such example of benefits derived from the organisation.”

Newsline: Rheinmetall Canada is celebrating its 25th anniversary in 2011. Which were the outstanding successes and milestones in the past 25 years?

Knackstedt: *Perhaps the most important milestone in our development was the Canadian forces ADATS contract that led to the foundation of our Saint-Jean-sur-Richelieu facility in 1986. This project commencing with the contract award through to the performance and successful completion of the order enabled us to collect valuable experience with regard to the development of new products. This ultimately prompted us to diversify our product range and penetrate new markets like Soldier Systems, Weapon Stations and Homeland Security. We are proud of the fact that we are now a company with a broad product portfolio represented by a competent workforce in the four business units Air Defence Systems and Defence Electronics as well as Weapon Systems and Vehicle Integration. Another important milestone relates to the experience acquired supporting Canadian Forces deployed to Afghanistan: in the latter case, we provide extensive technical and logistic support to our customer in-situ.*

Saint-Jean-sur-Richelieu/Ottawa. On the strength of an extensive product portfolio in four business units, Rheinmetall Canada is well equipped to capture new market shares. The Rheinmetall magazine Newsline interviewed Dr. Andreas Knackstedt, President and CEO of Rheinmetall Canada, about the market requirements and challenges relating to changing customer needs and the recruitment of qualified staff. 53 year-old Knackstedt, formerly President of Pierburg Inc. in South Carolina, moved to North America with his family in 1995.

Knackstedt: *Yes, very much so! Competitiveness demands a strong customer focus, as well as innovative and competitive products and services; above all, the ability to quickly adapt to customer needs and to structure the company to be more competitive in terms of pricing and the appropriate engineering and production staff.*

Newsline: Can you give some examples of the way in which customer needs have changed?

Knackstedt: *To understand the changes, it is best to look at some examples from the past. The geopolitical situation during the Cold War necessitated big defence budgets which, in turn, meant that performance was given absolute priority. Although performance is naturally still very impor-*

deployment. Another change is that prime contractors are now seeking second tier partners/suppliers that assume more risks and can provide complete subsystems versus components.

Newsline: Additionally, competition has doubtlessly become more global?

Knackstedt: *Correct! As is best illustrated by our history. During the Cold War, the German Defence industry, e.g. Rheinmetall Defence, largely looked after the interests of the German Bundeswehr. Today, competition is more global, forcing companies to internationalize their business. Jointly with American Rheinmetall Ammunition (ARM), we at Rheinmetall Canada play a crucial role as an important spearhead for the North American market, the biggest defence market there is.*

Dr. Andreas Knackstedt, President and CEO of Rheinmetall Canada Inc.

“We develop smart solutions in collaboration with our partners”

Newsline: Which were the main challenges then and now? How has business changed in the last years?

Knackstedt: *The main challenges during the initial period of ADATS were the creation of a new company in Canada, installation of facilities, transfer of technology and resources from Oerlikon Contraves (now Rheinmetall Air Defence), and hiring of employees with sufficient experience and expertise in all the engineering domains that ADATS required. We were lucky to benefit from Montreal's good infrastructure and were able to get staff from renowned local businesses like Pratt&Whitney, Bombardier Aerospace and Bell Helicopters. It was important for us to engage personnel who not only had the necessary qualifications with respect to electrical, mechanical engineering and software engineering but also had sufficient experience with project management and integrated logistic support.*

Newsline: Presumably, the obstacles and challenges posed by customers have always been tough and varied ?

tant, customers are much more price conscious than 25 years ago. Whereas primarily heavy armoured forces were needed during the Cold War, modern military scenarios are much more diversified. Our customers therefore need multi-purpose equipment to cover a large conflict spectrum (ranging from peacekeeping missions to warfare). Moreover, defence customers are more likely to give preference to proven technologies and are less willing to bear the development cost of new weapon systems.

Newsline: In what other ways has your business changed in the course of time?

Knackstedt: *Defence spending cuts of the Canadian government since the 1980s and 1990s have naturally had a strong impact on our business: in the past, product development was often government funded and programs could run for many years before a system/product was finally at a series production phase. Defence customers now demand off-the-shelf, proven systems/products to meet immediate*

Lots of countries are opening their defence markets to foreign suppliers. Simultaneously, many companies are intensifying their internationalization in order to succeed on the international market in times of economic constraints.

Newsline: What characterizes the Canadian market?

Knackstedt: *The market has changed completely from peacekeeping missions in the past to the ongoing mission in Afghanistan at the present. As a result of this, there is a need for different types of equipment and resource. A vehicle that was once adequate for peacekeeping is no longer useful on the battlefield where improved firepower, armour protection, and communications are mandatory.*

The Canadian market has a very transparent and a stringent scoring system to determine the winner of its competitive procurement processes. Another important aspect in the bidding process is that high value contracts usually demand 100% of value in Industrial and Regional Benefits (i.e.



Established player in the market: Rheinmetall Canada Inc. offers flexible manufacturing facilities and an own proving ground.

offsets – placing work in Canada for the value of the contract).

Newsline: Which benefits does Rheinmetall Canada offer Canada?

Knackstedt: *Canada still stands to benefit from us, even after 25 years. Rheinmetall Canada is focused on offering solutions that meet the customer's requirements first and foremost. Besides, we always seek opportunities to bring products from the Rheinmetall group to Canada. If these products cannot be adapted to satisfy Canadian requirements, Rheinmetall Canada has a proven capability to form alliances (teaming with other suppliers) in order to provide a system/solution. For example, we teamed very successfully with several companies to provide the Close Area Suppression Weapon system.*

Newsline: Please outline your company philosophy. What are your main business and innovation strategies and what is your main focus for the future?

Knackstedt: *Our philosophy can be best described by our Vision and Mission statements that underline the nature and purpose of our business. We aim to be the preferred and most trusted source of systems and services for our customers. Besides our own offer of innovative and cost-effective products and systems, Rheinmetall Canada actively facilitates Canadian market access to its Rheinmetall Defence partners and benefits from the international marketing and sales strength of the Rheinmetall group.*

Newsline: Which innovations were necessary and successful in the past and how have they shaped your business?

Knackstedt: *The innovation (which I would actually refer to as the capability) that distinguished our company was our ability as a system designer and integrator. We were really the only defence system integrator in Canada at the time due to our activities on the ADATS program. This capability and experience provided us with the knowledge and creativity to enter the markets we find ourselves in today.*

Newsline: Which expectations do you have of your employees? In how far have demands on employees changed in recent years?

Knackstedt: *Our customers demand innovative and cost-effective systems. We expect our engineering personnel to find new and efficient concepts and/or solutions when responding to customer requirements. This is essential in order to submit competitive bids in today's markets. Our engineering personnel have always encountered the same challenge over the years as product performance, price, and reliability have always been the main factors to a winning bid. This is a constant challenge to all of us.*

Newsline: What are the latest trends on the Defence market? Which areas offer the best sales opportunities for the future and in which areas do you want to grow?

Knackstedt: *The best sales opportunity in the Canadian land defence market is the sales and long-term support of vehicle fleets, whether tracked or wheeled. Rheinmetall Canada is ideally positioned to penetrate this market*

Dr. Andreas Knackstedt, President and CEO of Rheinmetall Canada Inc. (left): We offer smart solutions for our partners.



using its past vehicle experience and support from the Rheinmetall group with its vehicle expertise and product offerings.

Newsline: How would you rate the growth potential for the Canadian defence market in the next years and how will this affect Rheinmetall Canada's commitment in Canada?

Knackstedt: *The growth potential is high considering the number of major vehicle programs in Canada such as the upgrade programs for the Armoured Engineering Vehicle (AEV), Tactical Armoured Patrol Vehicle (TAPV) and Light Armoured Vehicle (LAV). We are fully committed to obtaining as much work as possible on vehicle and weapon station programs.*

Whenever possible, we offer Rheinmetall vehicles and systems; where this is not possible, we cooperate with partners like in the aforementioned TAPV (Tactical Armoured Patrol Vehicle) program. Since Rheinmetall had decided not to participate in the bid with an own vehicle, it was decided that Rheinmetall Canada should team up with other OEM's, in this case with Textron. One interesting aspect about this project is that we opted to cooperate with other manufacturers both in the vehicle and the weapon systems sector for this project; in this case, the required remotely controlled weapon station is a joint bid with our partner Kongsberg.

Newsline: Finally, on a more personal level: when and why did you come to Canada?

Knackstedt: *I arrived in Canada in the fall of 2009 upon assuming the role of President and Chief Executive Officer of Rheinmetall Canada. I am grateful to my team and colleagues for the warm welcome I was given. As a newcomer to the defence sector, the executive team was extremely patient and helpful, familiarizing me with the job, the country and the technicalities of my task. For me, this was an excellent opportunity and challenge to enter the defence market after several years on the automotive side of Rheinmetall where I had fulfilled many personal objectives and goals for the organization.*

Saint-Jean-sur-Richelieu/Ottawa. In a globalized world, remote conflicts and crises can have an immediate impact on national security. It is therefore important to counteract such threats at their place of origin. This is normally done in partnership with allied nations. Modern and powerful armed forces are still the last resort. In its Canada First Defence Strategy, the Canadian government has therefore defined as the “level of ambition” that its forces should be able to perform six core tasks in Canada, North America and abroad. The related technological and material prerequisites call for a thorough modernisation of existing facilities and systems. This includes new weapon system families including new

combat, transport and specialized vehicles. For some years now, the defence industry and forces have been focussing their attention not just on system platforms – e.g. armoured vehicles, aircraft and ships – but on capability categories such as survivability and protection, mobility and effectiveness in operation, reconnaissance and command. Today’s major systems and weapons therefore have to be conceived as powerful and controllable complete systems giving users a lot of capabilities (possibly in conjunction with other land-based, seaborne or aerial systems). Rheinmetall Canada is the ideal partner for these requirements as underscored by the many different projects of the company.

Rheinmetall Canada is involved in many weapon system and vehicle projects

Ideal partner for the Canadian Forces

★ **Close Area Support Weapon:** Rheinmetall Canada will deliver more than 300 grenade machine guns to the Canadian Forces under the Close Area Support Weapon (CASW) program. The C16 Automatic Grenade launcher system consists of a Heckler&Koch grenade machine gun already fielded with several other NATO forces; the army experts selected to team with Rheinmetall Nordic (the former Norwegian Simrad Optronics) and their Vingmate fire control system (FCS). Even during the evaluation phase it was clear that the Vingmate FCS was developed to meet the requirements of the Canadian Department of National Defence (DND) – one more reason for Rheinmetall Canada to select Rheinmetall Nordic to supply this key component. This weapon system is distinguished by its suitability for direct and indirect fire, a capability that is not provided by conventional weapon systems.

Besides the weapon and fire control system, Rheinmetall will also be delivering 250,000 rounds of practice and combat ammunition of its comprehensive 40mm x 53 high-velocity ammunition (muzzle speed of 130 m/s); the delivery will be fulfilled in several lots. Interesting features are the insensitive propulsion units, advanced warheads and a fuse technology that extends



Success: Rheinmetall Canada will deliver more than 300 grenade machine guns to the Canadian Forces under the Close Area Support Weapon (CASW) program.

the range from 1,600 up to 2,200 meters. The electronic fuse concept minimizes the number of duds and allows air burst programming, so that the ammunition is particularly well suited for use against under cover targets. All of these components are integrated in a precise and highly effective overall system. Rheinmetall Canada can demonstrate its full range of capabilities in this project.

★ **Tactical Armoured Patrol Vehicle (TAPV):** In the Tactical Armoured Patrol Vehicle project, around 500 new vehicles are to be purchased as a replacement for various older vehicles including the RG-31, a part of the Mercedes-Benz G-Wagon fleet and the 8x8 Coyote fleet. The system consists of a 4x4 vehicle comprising a reconnaissance variant and a general utility vehicle sharing a common chassis. This wheeled combat vehicle will fulfill a wide variety of roles domestically and on the battlefield, including but not limited to reconnaissance and surveillance, command and control, cargo

and armoured personnel carrier. It will have a high degree of tactical mobility and provide a high level of protection and survivability for its crew. The contract covers not only production and delivery of the vehicles but also long-term service and support.

Early in the procurement phase, Rheinmetall Canada and its German affiliate Rheinmetall Landsysteme (Vehicle Systems division) together assessed whether any vehicles in the Rheinmetall product portfolio matched the requirements of the Canadian customer. The proven armoured transport vehicle Fuchs/Fox was found to be the best suited option; however, it soon became clear that the Canadian Forces wanted a lighter vehicle. Rheinmetall Canada was thereupon given the go-ahead to search for a suitable project partner outside Rheinmetall. Following a detailed analysis of potential candidates, a teaming arrangement was found with Textron which is rated as the front-runner for the TAPV competition.

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Rheinmetall Canada is involved in many weapon system and vehicle projects

Ideal partner for the Canadian Forces



Photo: Textron Systems Canada Inc.



Photo: Kongsberg

The photo left shows the Tactical Armoured Patrol Vehicle of the OEM Textron with whom Rheinmetall Canada cooperates closely. As depicted, Textron's TAPV is equipped with the Kongsberg weapon station PROTECTOR (r.). Rheinmetall Canada and Kongsberg are jointly marketing PROTECTOR with a view to being selected by as many vehicle manufacturers as possible.

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The Canadian government has specified that the majority of vehicles should be equipped with remotely operated weapon stations; as with other projects outside Canada, Rheinmetall Canada is cooperating with Kongsberg. Both partners are jointly marketing the Kongsberg weapon station PROTECTOR with a view to being selected by as many vehicle manufacturers (OEMs) as possible.

★ **Medium Support Vehicle System Standard Military Pattern (MSVS SMP):** The planned family of Medium Support Vehicle System Standard Military Pattern is to perform a number of logistic tasks – both for reserve and active units. The new fleet is to comprise medium-sized trucks suitable for use in national emergencies in the country, for national defence purposes and for support operations during foreign assignments. It is to replace vehicles used since the 1980s – Steyr trucks built under licence that are gradually reaching the end of their supportability. The new business unit Rheinmetall MAN Military Vehicles (RMMV) is tendering a vehicle that the British armed forces successfully deployed to Iraq and Afghanistan. Rheinmetall Canada is partnering with RMMV on the Canadian market. Currently, RMMV and Rheinmetall Canada are determining their exact work shares should RMMV be successful in winning this order for delivery of the vehicles to the Canadian Forces.

Irrespective of the decision, it is clear that Rheinmetall Canada has an industrial footprint in this market well-suited to final assembly,

integration of sub-systems such as remotely controlled weapon stations (RCWS) and communications equipment, and testing before delivery to the customer. Rheinmetall Canada is the natural partner for the MSVS SMP program. As a company specialising in the manufacture and integration of sub-systems, it is likely that Rheinmetall Canada products will also be offered in combination with RMMV systems on the international market. This program likewise envisages the performance of long-term service and maintenance by the industry. Rheinmetall Canada's experience with logistics and related activities gives it the necessary capability to carry out such tasks.

★ **Maintenance and overhaul of Leopard 2 main battle tanks (MBT):** Canada has belonged to the family of Leopard MBT users for many years. Presently, the Canadian Forces are using the Leopard 1 and Leopard 2 tanks in the Afghanistan theatre of operation with immense success. The tempo of utilization is very high, beyond the original design prediction and the Leopard is performing above expectations. The reliability of the weapon system is

great when considering that the Leopard was designed for the Cold War era in Central Europe. The Afghanistan theatre of operation is quite different and the Leopard is extremely successful in this harsh environment.

Working in cooperation with other Rheinmetall companies, Rheinmetall Canada is acting as the contact for Leopard MBT activities in the Canadian market. Thanks to the company's industrial capabilities, it can also offer in-service support (ISS): ISS gives the customer a single source to find the complete services for a product's maintenance life cycle. The main advantage for the customer is that it can rely on the industrial base to support the weapon system, thereby avoiding potentially costly maintenance shortfalls during the entire life of the weapon system. Furthermore, the same industrial base has the capability to design and implement periodic upgrades on the weapon system. Rheinmetall is probably the only industrial consortium that can offer this capability.

Rheinmetall Canada is currently upgrading 42 MBTs from Dutch stocks to the Canadian specification and will prepare these vehicles for incorporation in existing command structures by the middle of 2013. The first six such tanks will be delivered before the end of 2011.

The Canadian Leopard family could also include recovery and armoured engineer vehicles in the near future. As the local partner, Rheinmetall Canada is supporting

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Rheinmetall Canada is acting as the contact for Leopard MBT activities on the Canadian market.





Rheinmetall was contracted to equip the Canadian Navy's Halifax-class frigates with the MASS Multi Ammunition Softkill System (see below). This countermeasure system provides a unique level of protection against modern sensor-guided missiles on the high seas and in coastal waters, as well as against asymmetric terrorist-type threats. Fully automatic, MASS offers significant tactical, operational, and logistical advantages, and can be installed on any type of ship. It can be integrated into all naval command and control systems, but can also operate in a stand-alone mode. MASS significantly enhances ship survivability through speed of response and the ability to put the required multi-purpose decoy rounds in the precise position necessary for optimum defence.

Rheinmetall Canada is involved in many weapon system and vehicle projects

Ideal partner for the Canadian Forces

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Rheinmetall Landsysteme (RLS) in its bid. It is the declared intention of Rheinmetall Canada to become Canada's Leopard 2 center of excellence.

★ Remotely operated weapon stations for the removal of explosive ordnance: Improvised Explosive Devices (IEDs) pose the biggest threat to military personnel in today's asymmetric conflict scenarios. Beyond the need for armour protection, special vehicles are required for the removal of IEDs (Counter IED, C-IED). Rheinmetall Canada has already demonstrated its capabilities in this context, having integrated a remotely operated weapon station on a Cougar vehicle that will serve as a C-IED reconnaissance and explosive removal platform. At this stage, the remotely operated weapon stations will be used to disrupt IEDs at

a very close range. Although originally not intended for this purpose, the remotely operated weapon with its powerful sensor system, extreme accuracy and sensitivity makes it easier for the operator to carry out his tasks.

Rheinmetall Canada competencies in this context are sensors and servo controls, fire control systems, firing mechanisms and software design,



development and qualification. The project once again underlines the strengths of Rheinmetall Canada as a systems company. The Canadian arm of Rheinmetall has the capability to design, develop, integrate and test components and subassemblies to produce complete weapon stations.

★ Integrated Soldier System Project (ISSP): The ISSP will significantly enhance the combat performance and effectiveness of soldiers as soldiers and low level command centers will seamlessly share data and voice communications through a network. To do this, each soldier will be equipped with a modular, integrated suite of equipment that includes weapon accessories, weapon devices, sensors, individual equipment and operational clothing. Canada has been participat-

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Rheinmetall Canada is involved in many weapon system and vehicle projects

Ideal partner for the Canadian Forces

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ing actively with Germany and other countries in NATO and other working groups dealing with similar projects. Both the Canadian ISSP program and the German equivalent – the Future Soldier System IdZ-ES – have benefited from this. Rheinmetall Canada and its German defence affiliate RDE have had a major part in this activity.

★ **Multi-Ammunition Softkill System (MASS):** Another successful project from Rheinmetall Canada relates to the naval sector. The Canadian Forces were looking for a solution to replace the ex-



The ISSP will significantly enhance the combat performance and effectiveness of soldiers and low level command centers will seamlessly share data and voice communications through a network.

isting Shield decoy launchers originally fitted onboard the Halifax class. The existing decoy system suffered from system obsolescence and declining ammunition availability. In a collaborative effort with Rheinmetall Weapon and Ammunition Fronau and Rheinmetall Canada, the Multi-Ammunition Softkill System (MASS) was successfully offered to the Canadian Forces.

By firing decoy ammunition, the automated decoy system MASS protects ships against attacks from modern sensor-guided missiles at sea, in coastal regions and in the case of terrorist attacks. The ship does not have to carry out an evasive manoeuvre. The system offers substantial tactical,

operational and logistic advantages, and can be fitted on all ships. It can be integrated in all command systems or used as a stand-alone installation. The new, programmable omni-spectral rounds provide protection in all relevant wavelengths of the electromagnetic spectrum (radar, IR, laser, EO and UV). The system's capabilities have been successfully demonstrated in numerous international test campaigns.

MASS is Rheinmetall's first delivery to the Canadian Navy. Leveraging RWM's technical solution and engineering coupled with Rheinmetall Canada's bid response preparation capabilities, program management skills, a large network of Canadian suppliers – over 80% of the material comes from Canadian partners – and close customer intimacy produced a winning solution that offered clear value to the client. Following a familiarization phase, the systems are now being assembled at Rheinmetall Canada and will then be fitted on the designated frigates.

The Canadian order for 26 launchers is the largest single order placed for MASS to date and will enable the Canadian Navy to play an important role in the MASS Users' Community which will help shape the future development of this exceptionally effective and versatile system. The system offers significant growth potential.

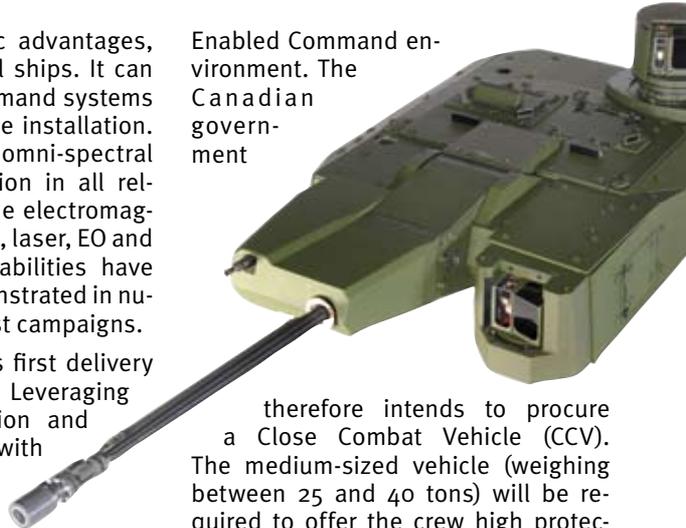
★ **Lance turret and components for the Close Combat Vehicle (CCV):** Fire power, mobility, armour protection, reconnaissance and command capability as well as "boots on the ground" are increasingly important in a Network

Enabled Command environment. The Canadian government

therefore intends to procure a Close Combat Vehicle (CCV). The medium-sized vehicle (weighing between 25 and 40 tons) will be required to offer the crew high protection against ballistic threats, IEDs, Explosively Formed Projectiles (EFPs) as well as RPG-7 shoulder-launched, anti-tank rocket-propelled grenades in order to transport combat troops to the battlefield and – together with other armoured vehicles – support dismounted soldiers. A total of 108 CCVs including an Infantry Fighting Vehicle (IFV) and Forward Observation Officer (FOO) variant are to be procured. There is an option for another 30 vehicles. The overall package includes a long-term service contract.

In the light of the performance requirements and specifications, the RLS Lance turret is considered to be well suited for this project. The modularity, fire control and precision make Lance the most modern turret of its type in this category. Several vehicle suppliers have expressed their interest in the turret and discussions are ongoing. As in other projects, Rheinmetall Canada can integrate the turret locally and provide long-term support.

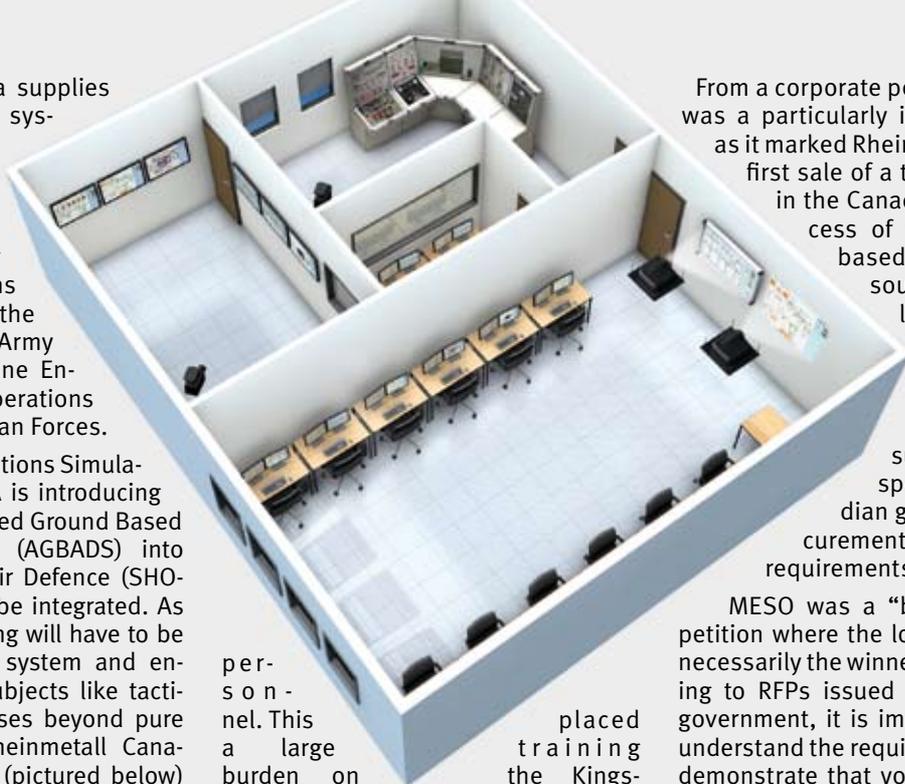
A close impression from Rheinmetall Defence Electronics unit: Advanced land simulation technology providing extensive training opportunities from individual gunner training through to virtual tactical mission training on a battalion level.



Rheinmetall Canada supplies high-tech simulation systems to customers on the Canadian and international markets. Two such systems are the Air Defence Operations Simulator (ADOS) for the Royal Netherlands Army (RNLA) and the Marine Engineering System Operations (MESO) of the Canadian Forces.

★ **Air Defence Operations Simulator (ADOS):** The RNLA is introducing Rheinmetall's Advanced Ground Based Air Defence System (AGBADS) into which Short Range Air Defence (SHORAD) systems are to be integrated. As a result of this, training will have to be adapted to the new system and enhanced to include subjects like tactical command processes beyond pure operator training. Rheinmetall Canada's ADOS simulator (pictured below) will be used mainly to train command personnel and air defence staff. The simulator will also serve as a test and research tool for the advancement of doctrines, tactics, techniques and procedures (DTTP).

Rheinmetall Canada already supplied the Command, Control and Communication/C3 system for AGBADS. This was



personnel. This placed a large burden on the Kingston Class of Maritime Coastal Defence Vessels and threatened their operational availability due to lack of available qualified personnel.

The MESO trainer will be installed at the Naval Reserve Fleet School in Quebec City. The trainer includes a Full Mission Trainer replicating the Machinery Control Room layout and providing

From a corporate perspective, MESO was a particularly important project as it marked Rheinmetall Defence's first sale of a training simulator in the Canadian market. Success of this project was based not only on a sound technical solution, but also on Rheinmetall Canada's intimate knowledge of how to successfully respond to the Canadian government's procurement processes and requirements.

MESO was a "best value" competition where the lowest price is not necessarily the winner. When responding to RFPs issued by the Canadian government, it is imperative that you understand the requirements; that you demonstrate that you meet all of the mandatory ones; and, for best value, that you exceed the maximum number of rated requirements.

★ **Land Vehicle Crew Training Station (LV CTS):** The Land Vehicle Crew Training Station (LV CTS) is an upcoming project for the Canadian Army to set up five vehicle simulation and training centres across Canada. The

High-tech products for simulation

one of the main reasons for winning the ADOS order since Rheinmetall persuaded the customer to include the integration of the AGBADS-C3 software as a mandatory requirement for the bid. The convincing solution and the fact that the Rheinmetall Canada bid was within the required budgetary limits ultimately tipped the scales in favour of the leading weapon systems supplier in Canada.

ADOS is a simulation and training system using COTS simulation tools. Rheinmetall Canada has worked closely with the ADOS trainers from the RNLA throughout the design and implementation phase to ensure the system reflects the needs and wishes of the customer. The Bremen-based Rheinmetall Business Unit Simulation and Training will be the in-country partner in the Netherlands during the long-term support contract for ADOS.

★ **Marine Engineering System Operations (MESO):** MESO (pictured above) is intended to rectify a critical training "bottleneck" being experienced by Canada's Naval Reserves for the availability of qualified maritime engineering

'as fitted' operator interfaces including communications and audible alarms. It will be connected to a Virtual Machinery Room with a number of touch screens which can be reconfigured to represent every system contained in each of the six engineering compartments of the ship.

This will also be connected to a Multi-Task Trainer consisting of a 10 workstation classroom and an Instructor/Operator Room for management of the training. As well, the project includes delivery of Individual Multi-Task Trainers (IMTT) consisting of one workstation running training software.

centres will provide crew commander, gunnery and driver training for the crews of the LAV 3 and Close Combat Vehicle (CCV) fleets of the Canadian Army. The Canadian Government has launched an open competition, and contract award is targeted for late 2013 or early 2014.

CEO Dr. Andreas Knackstedt: "Rheinmetall Canada will leverage the technology and experience of Rheinmetall's Bremen-based Simulation and Training Business Unit to offer a solution for LV CTS which is compliant, within budget and meets the Industrial Regional Benefits (offsets) requirements of the Canadian Government. Additionally, our company will utilize its 25 years of experience as a systems integration company in Canada to properly answer the typically complex Request for Proposal (RFP) from the Canadian Government, and to position itself as the prime contractor responsible for project management, assembly, integration and test, integrated logistics support and long-term in-service support for the LV CTS program."





Saint-Jean-sur-Richelieu/Ottawa. Rheinmetall Canada with its broad product portfolio operates in various business areas. Alongside its own products and services in Canada, its sales team acts as a business portal for the Rheinmetall group helping affiliated companies launch their products in the Canadian market. Acting as a partner with extensive local know-how, Rheinmetall Canada can facilitate access to the Canadian market for other Rheinmetall companies. Rheinmetall Canada has, for instance, forged partnerships with BAE Systems, DEW Engineering and the aerospace and defence systems company EADS as well as with six Rheinmetall Defence divisions. As Duncan Hills, Director of Government Relations and Industrial Benefits notes, “Cooperation with our sister companies is strategically important to us and we have secured numerous joint orders in this way. These include orders for the MASS (Multi-Ammunition Softkill System) in cooperation with RWM and the MESO (Marine Engineering System Operation) simulator in partnership with Rheinmetall Simulation and Training. Both of these orders have been for the Canadian Forces.” (See also articles “Ideal partner for the Canadian Forces” as well as “High-tech products for simulation” on pages 6 – 9 and 10).

Further Hills explains how cooperation with Bremen-based Rheinmetall Defence Electronics on the German Army’s Future Soldier System IdZ was mutually beneficial: “We were able to introduce Canadian know-how into the system’s core computer which RDE successfully utilized to field a better system to the German Army. It was a great team effort.”

According to Duncan Hills, this isn’t the only advantage derived from the cooperation in the ongoing Future Soldier System project: “The partnership with RDE and delivery of system components for the Soldier System program is an opportunity for further

in August 2009, the PSA has been a success. The PSA system was also used for the 2010 Winter Olympics to protect athletes and visitors against terrorist attacks.

The synergetic partnership with Aeronautics has been equally successful. This company provides the core technology and products that meet the technical requirements of the PSA. Rheinmetall Canada, in turn, brings the benefit of excellent customer relations, integrated logistic support, technical documentation, in-situ service and training as well as ISTAR expertise allowing the incorporation of PSA in the Canadian

A highly flexible and diversified all-rounder

business with international partners. This global network is a crucial success factor for our business.”

The partnership with the aerospace company Aeronautics Defence Systems (Yavne/Israel) in the Counter-IED Persistent Surveillance Aerostat (C-IED PSA) project (pictured on this page) is another success. The surveillance system has been used in Afghanistan and was also utilized as a protection system for the 2010 Winter Olympics in Vancouver.

“The main requirement in Afghanistan is that the system provides continuous 24-hour surveillance seven days a week for the Forward Operating Bases (FOB)”, says Stéphane Oehrli, Vice President responsible for Electronic Systems and Air Defence. The system uses an advanced day and night time sensor that surveys the surroundings of FOBs and other sensitive installations from a balloon at an altitude of about 300m. Since first deployed in Afghanistan

intelligence gathering and reconnaissance network.

Rheinmetall Canada also provides Field Service Representatives (FSR) in Afghanistan and in Vancouver during the Olympics. These specialists with profound military experience have interacted well with Canadian soldiers even under stress and in high threat scenarios, and are always on hand when technical expertise is needed.

The excellent partnership between Aeronautics and Rheinmetall Canada has definitely contributed to the success of the system. Both companies addressed customer interests from the very outset and the customer was extremely pleased with the outcome. Vice President Stéphane Oehrli sums up: “The combination of high product and service quality prompted the customer to raise further orders.”



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Rheinmetall Defence stands out among the world's top suppliers of defence technology. Rheinmetall Canada represents the group's full range of products and services and offers innovative solutions for weapon systems, vehicles, electronic systems and air defence. For the Canadian Forces, we are prime contractor on several key programs including the repair and overhaul of the Leopard 2 training tanks and the 40 mm Close Area Suppression Weapon.